

What is claimed is:

1. A method to determine when to send a signal,  
comprising:

5 receiving a set of durations, the set of durations  
including at least two time durations, each duration  
corresponding to a respective action signal to be sent  
at the end of the respective duration;

10 determining an expiration time corresponding to  
each duration;

selecting the expiration time that is first to  
occur to provide a selected expiration time;

15 sending the action signal corresponding to the  
selected expiration time when the selected expiration  
time occurs.

20 2. The method of claim 1, wherein determining an  
expiration time corresponding to each duration includes  
determining a received time for each duration.

3. The method of claim 2, wherein determining an  
expiration time corresponding to each duration further  
includes adding each duration to its corresponding  
received time.

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4. The method of claim 1, wherein selecting the expiration time that is first to occur includes comparing the expiration times to determine which of the expiration times is first to occur.

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5. The method of claim 1, further including determining when the selected expiration time occurs by setting a clock to send a signal at the expiration time.

10 6. A method to determine when to send a signal, comprising:

determining a first expiration time and a second expiration time;

15 comparing the first expiration time to the second expiration time;

selecting the first expiration time if the first expiration time is less than the second expiration time, and selecting the second expiration time if the second expiration time is less than the first expiration time, 20 and selecting both the first and second expiration times if the first expiration time is approximately equal to the second expiration time;

if the first expiration time is not approximately equal to the second expiration time, setting a signal 25 send time approximately equal to the selected one of the

first expiration time and the second expiration time,  
and if the first expiration time is approximately equal  
to the second expiration time, setting a signal send  
time approximately equal to the first and second

5 expiration time;

determining a start time;

determining a time difference between the signal  
send time and the start time;

10 setting a time period approximately equal to the  
time difference;

setting a timer to send a call back signal at the  
end of the time period;

starting the timer at the start time; and

15 once the timer sends the call back signal, sending  
the first action signal if the first expiration time was  
selected, and sending the second action signal if the  
second expiration time was selected.

7. The method of claim 6, further comprising:

20 receiving a first time duration corresponding to a  
first action signal; and

determining a first received time corresponding to  
a current time indicated by a clock when the first time  
duration was received.

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8. The method of claim 7, wherein the first expiration time is approximately equal to the first received time plus the first time duration.

5 9. The method of claim 6, further comprising, once the timer sends the call back signal:

selecting a next expiration time, the next expiration time corresponding to the first expiration time if the first expiration time was not previously  
10 selected, and the next expiration time corresponding to the second expiration time if the second expiration time was not previously selected;

determining a new start time;

determining a new time difference between the next  
15 expiration time and the new start time;

setting a new time period approximately equal to the new time difference;

setting the timer to send a new call back signal at the end of the new time period; and

20 starting the timer at the new start time.

10. The method of claim 6, further comprising:

checking a first indicator upon sending the first action signal, the first indicator corresponding to  
25 whether the first action signal should be sent again;

and

determining a third expiration time if the first indicator indicates the first action signal should be sent again.

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11. A method to determine when to send a signal, comprising:

receiving a set of durations, the set of durations including at least two time durations, each duration  
10 corresponding to a respective action signal to be sent at the end of the respective duration;

determining a received time for each duration;

determining an expiration time corresponding to each duration to provide a set of expiration times, each  
15 expiration time being approximately equal to the corresponding received time plus the corresponding time duration;

comparing the expiration times to determine which of the expiration times is first to occur;

20 selecting the expiration time that is first to occur to provide a selected expiration time;

determining a start time;

determining a time difference between the selected expiration time and the start time;

setting a time period approximately equal to the  
time difference;

setting a timer to send a call back signal at the  
end of the time period;

5 starting the timer at the start time; and  
once the timer sends the call back signal, sending  
the action signal that corresponds to the selected  
expiration time.

10 12. The method of claim 11, further comprising;  
selecting from the set of expiration times the  
expiration time that is next to occur;  
determining a new start time;  
determining a new time difference between the  
15 selected expiration time that is next to occur and the  
start time;

setting a new time period approximately equal to  
the new time difference;

starting the timer at the new start time; and  
20 once the timer sends the call back signal, sending  
the action signal that corresponds to the selected  
expiration time that is next to occur.

13. The method of claim 11, further comprising adding  
25 to the set of expiration times an expiration time

approximately equal to the time the action signal was sent plus the corresponding duration.

14. The method of claim 11, further comprising:

5       checking an indicator corresponding to the sent action signal to determine whether the indicator is turned on or turned off;

10       if the indicator is turned on, determining an expiration time approximately equal to the time the action signal was sent plus the corresponding duration.

15. A method to determine when to send a signal, comprising:

15       receiving first timing information corresponding to a first action signal, the first timing information including a first duration and a first flag;

20       if the first flag indicates an active status, determining a first expiration time, and including the first expiration time in a set of expiration times to be considered;

      receiving second timing information corresponding to a second action signal, the second timing information including a second duration and a second flag;

if the second flag indicates an active status,  
determining a second expiration time and including the  
second expiration time in the set of expiration times;

selecting an expiration time in the set that will  
5 occur first, to provide a selected expiration time;

determining a start time;

determining a time difference between the selected  
expiration time and the start time;

setting a time period approximately equal to the  
10 time difference;

setting a timer to send a call back signal at the  
end of the time period;

starting the timer at the start time; and

once the timer sends the call back signal, sending  
15 an action signal that corresponds to the selected  
expiration time.

16. The method of claim 15, wherein at least one of the  
flags corresponding to the selected expiration time is  
20 set to an inactive status once the corresponding action  
signal is sent.

17. The method of claim 15, wherein the first timing  
information further includes a first indicator, and the  
25 method further comprises:



upon sending the first action signal, determining whether the indicator is turned on or turned off;

determining whether the first flag indicates an active status;

5       if the first flag indicates an active status and the indicator is turned on, determining a third expiration time corresponding to the first action signal and including the third expiration time in the set of expiration times;

10       selecting from the set an expiration time that will next occur to provide a new selected expiration time;

determining a new start time;

15       setting the time period approximately equal to a difference between the new selected expiration time and the new start time;

starting the timer at the new start time; and

once the timer sends the call back signal, sending action signals that correspond to the new selected expiration time.

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18. The method of claim 15, wherein the first timing information includes a first indicator, and the method further comprises:

upon sending the first action signal, determining whether the first indicator is turned on or turned off; and

if the first indicator is turned off, setting the  
5 first flag to an inactive status.

19. An article of manufacture comprising a computer usable medium having computer readable program code instructions embodied therein to cause a computer to  
10 determine when to send a signal, the instructions having:

a computer readable program code module to receive a set of durations, the set of durations including at least two time durations, each duration corresponding to  
15 a respective action signal to be sent at the end of the respective duration;

a computer readable program code module to determine an expiration time corresponding to each duration;

20 a computer readable program code module to select the expiration time that is first to occur to provide a selected expiration time;

a computer readable program code module to send the action signal corresponding to the selected expiration  
25 time when the selected expiration time occurs.

20. The method of claim 19, wherein the instructions further have a computer readable program code module to determine a received time for each duration.

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21. The method of claim 20, wherein the instructions further have a computer readable program code module to add each duration to its corresponding received time.

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22. The method of claim 19, wherein the instructions further have a computer readable program code module to compare the expiration times to determine which of the expiration times is first to occur.

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23. The method of claim 19, wherein the instructions further have a computer readable program code module to set a clock to send a signal at the expiration time.

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24. An article of manufacture comprising a computer usable medium having computer readable program code instructions embodied therein to cause a computer to determine when to send a signal, the instructions having:

a computer readable program code module to  
25 determine a first expiration time;

a computer readable program code module to  
determine a second expiration time;

a computer readable program code module to compare  
the first expiration time to the second expiration time;

5 a computer readable program code module to select  
the first expiration time if the first expiration time  
is less than the second expiration time, and to select  
the second expiration time if the second expiration time  
is less than the first expiration time, and to select  
10 both the first and second expiration times if the first  
expiration time is approximately equal to the second  
expiration time;

a computer readable program code module to set a  
signal send time approximately equal to the selected one  
15 of the first expiration time and the second expiration  
time if the first expiration time is not approximately  
equal to the second expiration time, and to set a signal  
send time approximately equal to the first and second  
expiration time if the first expiration time is  
20 approximately equal to the second expiration time;

a computer readable program code module to  
determine a start time corresponding to the current time  
indicated by the clock;

a computer readable program code module to  
determine a time difference between the signal send time  
and the start time;

5 a computer readable program code module to set a  
time period of a timer approximately equal to the time  
difference so a call back signal is sent at the end of  
the time period;

a computer readable program code module to start  
the timer at the start time; and

10 a computer readable program code module to send,  
once the timer sends the call back signal, the first  
action signal if the first expiration time was selected,  
and to send the second action signal if the second  
expiration time was selected.

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25. The article of manufacture of claim 24, wherein the  
instructions further have:

a computer readable program code module to select a  
next expiration time once the timer sends the call back  
20 signal, the next expiration time corresponding to the  
first expiration time if the first expiration time was  
not previously selected, and the next expiration time  
corresponding to the second expiration time if the  
second expiration time was not previously selected;

a computer readable program code module to  
determine a new start time;

a computer readable program code module to  
determine a new time difference between the next  
5 expiration time and the new start time;

a computer readable program code module to set a  
new time period approximately equal to the new time  
difference; and

a computer readable program code module to start  
10 the timer at the new start time.

26. The article of manufacture of claim 24, wherein the  
instructions further have:

a computer readable program code module to check a  
15 first indicator upon sending the first action signal,  
the first indicator corresponding to whether the first  
action signal should be sent again;

a computer readable program code module to  
determine a third expiration time if the first indicator  
20 indicates the first action signal should be sent again.

27. An article of manufacture comprising a computer  
usable medium having computer readable program code  
instructions embodied therein to cause a computer to

determine when to send a signal, the instructions  
having:

5 a computer readable program code module to receive  
a set of durations, the set of durations including at  
least two time durations, each duration corresponding to  
a respective action signal to be sent at the end of the  
respective duration;

10 a computer readable program code module to  
determine an expiration time corresponding to each  
duration to provide a set of expiration times;

a computer readable program code module to compare  
the expiration times to determine which of the  
expiration times is first to occur;

15 a computer readable program code module to select  
the expiration time that is first to occur to provide a  
selected expiration time;

a computer readable program code module to  
determine a start time;

20 a computer readable program code module to  
determine a time difference between the selected  
expiration time and the start time;

25 a computer readable program code module to set a  
time period of a timer approximately equal to the time  
difference, the timer being capable of sending a call  
back signal at the end of the time period;

a computer readable program code module to start  
the timer at the start time; and

a computer readable program code module to send,  
once the timer sends the call back signal, the action  
5 signal corresponding to the selected expiration time.

28. The article of manufacture of claim 27, wherein the  
instructions further have:

a computer readable program code module to select  
10 from the set of expiration times the expiration time  
that is next to occur;

a computer readable program code module to  
determine a new start time;

a computer readable program code module to  
15 determine a new time difference between the selected  
expiration time that is next to occur and the start  
time;

a computer readable program code module to set the  
time period approximately equal to the new time  
20 difference;

a computer readable program code module to start  
the timer at the new start time; and

a computer readable program code module to send,  
once the timer sends the call back signal, the action



signal corresponding to the selected expiration time  
that is next to occur.

29. The article of manufacture of claim 27, wherein  
5 the instructions further have a computer readable  
program code module to add to the set of expiration  
times an expiration time approximately equal to the time  
the action signal was sent plus the corresponding  
duration.

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30. The article of manufacture of claim 27, wherein  
the instructions further have:

a computer readable program code module to check an  
indicator corresponding to the sent action signal to  
15 determine whether the indicator is turned on or turned  
off;

a computer readable program code module to add to  
the set of expiration times an expiration time  
approximately equal to the time the action signal was  
20 sent plus the corresponding duration, if the indicator  
is turned on.

31. An article of manufacture comprising a computer  
usable medium having computer readable program code  
25 instructions embodied therein to cause a computer to

determine when to send a signal, the instructions  
having:

5 a computer readable program code module to receive  
first timing information corresponding to a first action  
signal, the first timing information including a first  
duration and a first flag;

10 a computer readable program code module to  
determine a first expiration time, if the first flag  
indicates an active status, and to include the first  
expiration time in a set of expiration times to be  
considered;

15 a computer readable program code module to receive  
second timing information corresponding to a second  
action signal, the second timing information including a  
second duration and a second flag;

a computer readable program code module to  
determine a second expiration time, if the second flag  
indicates an active status, and to include the second  
expiration time in the set of expiration times;

20 a computer readable program code module to select  
an expiration time in the set that will occur first, to  
provide a selected expiration time;

a computer readable program code module to  
determine a start time;

a computer readable program code module to set a  
time period of a timer approximately equal to a  
difference between the selected expiration time and the  
start time, the timer being capable of sending a call  
5 back signal at the end of the time period;

a computer readable program code module to start  
the timer at the start time; and

a computer readable program code module to send,  
once the timer sends the call back signal, action  
10 signals corresponding to the selected expiration time.

32. The article of manufacture of claim 31, wherein  
the instructions further have a computer readable  
program code module to set at least one of the flags  
15 corresponding to the selected expiration time to an  
inactive status once the corresponding action signal is  
sent.

33. The article of manufacture of claim 31, wherein the  
20 first timing information further includes a first  
indicator, and the instructions further have:

a computer readable program code module to  
determine whether the indicator is turned on or turned  
off;

a computer readable program code module to  
determine whether the first flag indicates an active  
status;

a computer readable program code module to  
5 determine a third expiration time corresponding to the  
first action signal, if the first flag indicates an  
active status and the indicator is turned on, and to  
include the third expiration time in the set of  
expiration times;

10 a computer readable program code module to select  
an expiration time in the set that will next occur to  
provide a new expiration time;

a computer readable program code module to  
determine a new start time;

15 a computer readable program code module to set a  
new time period approximately equal to a difference  
between the new expiration time and the new start time;

a computer readable program code module to start  
the timer at the new start time; and

20 a computer readable program code module to send,  
once the timer sends the call back signal, action  
signals corresponding to the new expiration time.

34. The article of manufacture of claim 31, wherein the first timing information further includes a first indicator, and the instructions further have:

a computer readable program code module to  
5 determine whether the first indicator is turned on or  
turned off; and

a computer readable program code module to set the first flag to an inactive status if the first indicator is turned off.

[illegible]